

A New Species of *Culex (Melanoconion)* from
Bolivia and Ecuador (Diptera: Culicidae)¹

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ABSTRACT. *Culex (Melanoconion) penai*, a new species from Bolivia and Ecuador is recognized. The adult male, the only known stage of this species, is described and the male genitalia are illustrated.

INTRODUCTION

In a recent study of the *Culex (Melanoconion)* material from the very extensive collection for the project "Mosquitoes of Middle America," initiated in 1963 by John N. Belkin and his colleagues at the Department of Biology, University of California, Los Angeles, a number of adult males were found with genitalia strikingly different from all other known members of the subgenus. This material consists of 1 male (BOL 47) collected by Torres Muñoz in Bolivia in 1944 and 6 males (ECU8, ECU9) collected by Luis E. Peña G. in Ecuador in 1965. Sandra J. Heinemann, who curated the collection, had provisionally identified these specimens as *Culex (Mel.)* sp. 25. Subsequent study of the associated genitalia slides by the author at the Medical Entomology Project has finally led to the conclusion that this material represents a distinct new species. I take pleasure in dedicating this new species to the eminent Chilean entomologist, Luis E. Peña G., whose collection from Ecuador yielded numerous specimens for future taxonomic work on Neotropical mosquitoes.

Culex (Melanoconion) penai new species
(Fig. 1)

MALE. Measurements and general description based on holotype. Wing: 2.4 mm. Forefemur: 1.1 mm. Proboscis: 1.3 mm. In general, relatively small, brownish species without distinct ornamentation on palpus, proboscis, thorax, legs and wing; abdominal tergites with distinct basolateral pale spots. *Head.* Decumbent scales largely broad, ovate, whitish, covering an extensive central area of vertex; narrow decumbent scales restricted to dorsal midline of vertex and to occiput; erect scales numerous, entirely dark brown or black. Palpus and proboscis dark scaled; palpus long, slender, exceeding proboscis by about the combined length of segments 4 and 5; segment 3 with 1-3 short setae on apex; segments 4,5 weakly plumose, setae on lateral and mesal surface sparse,

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all weak and short. Proboscis slender, labium with submedian false joint distad of midpoint. Antenna with strongly plumose flagellum. *Thorax*. Mesonotal integument brownish; scales narrow, brownish on disc, pale whitish on anterior margin, prescutellar space and scutellar lobes; acrostichal setae not developed. Pronotal and pleural integument brownish, same color as mesonotum; no scale patches on *ppl*, upper corner of *stp*, *mep*; a small whitish scale patch present on lower posterior border of *stp*; one lower *mep* bristle present. *Legs*. Without any distinctive pale marking on femora, tibiae or tarsi. *Wing*. Scales on all wing veins moderately dense and entirely dark; scales on veins R_2 , R_3 and R_{4+5} narrow, clavate. *Abdomen*. Tergites II-VII with conspicuous basolateral pale spots, remainder entirely dark scaled.

MALE GENITALIA (Fig. 1). As figured, distinctive in the following. *Segment VIII*. Tergite with broad median emargination extending to base of segment, widely separating tergite into 2 halves; each half with prominent rows of numerous bristles on inner and outer caudal margin. *Segment IX*. Lobe of IX tergite slender, elongate, pronglike, with a row of about 10 minute setae on inner basal margin and 4,5 minute setae on extreme apex. *Sidepiece*. Relatively large, broad oval or globular; length 0.32 mm.; a few to several narrow scales present on basal lateral tergal surface; subapical tergal surface with an extensive patch of numerous fine setae laterad of subapical lobe, extending from near proximal division to near base of clasper. *Subapical Lobe*. Proximal and distal divisions elongate, columnar and widely separated; proximal division not furcate distad, bearing 2 subequal rodlike setae (*a*, *b*) on apex; distal division with a long, fine, hairlike seta at base and an elongate columnar process bearing on apex one short hairlike seta, one long rodlike, apically hooked seta, 2,3 flattened, apically blunt setae and one large, oval-shaped leaf. *Clasper*. Short, thick, poorly sclerotized, about 0.5 length of sidepiece; distal outer margin pronounced, without distinct crest of spicules; snout short, distally tapered and slightly recurved; seta *a* (spiniform) narrow and short; setae *b*, *c* minute, rather inconspicuous. *Phallosome*. Lateral plates of aedeagus in tergal aspect with a poorly sclerotized upper tergal bridge at about middle; lateral plate in lateral aspect with usual basal hook, which is long, narrow, curved sternad; distal portion of lateral plate narrow, with a distinct, spinelike apical sternal process and a bifurcate apical tergal process; latter, as illustrated, composed of a median spine and a smaller lateral spine. *Proctiger*. Apical crown dark, composed of 10-12 flat and apically truncate spicules; paraproct narrow, strongly sclerotized; cercal sclerite largely membranous; cercal setae 3; basolateral sclerotization large, broad, oval-shaped, loosely attached to basal part of paraproct laterad.

TYPE-DATA. *Holotype*: Male (BOL 47) with slide of genitalia (740606-23). Chapare, "San Antonio", BOLIVIA, 6 May 1944, Torres Muñoz (USNM #76,134). *Paratypes*: 6 males (ECU 8, ECU 9) with slides of genitalia (78/265, 78/266, 78/267, 78/268, 670123-23, 670123-24), Napo, Coca (Francisco de Orellana, 0° 28'S, 76° 56'W, at confluence of Rio Coca and Rio Napo), 250 m., ECUADOR; probably caught in Malaise trap in tropical forest, 23 Apr-12 May 1965, Luis E. Peña G. (USNM).

DISTRIBUTION. Presently known only from Bolivia and Ecuador. *Material examined*: 7 males (as given in the type-data).

TAXONOMIC DISCUSSION. The designated holotype from Bolivia and the 6 paratypes from Ecuador of *penai* all agree perfectly in every feature of the male genitalia and general facies and on this basis I believe they are conspecific. The Ecuador specimens are heavily overgrown with fungal myceliae but in the general external features which are visible, there are virtually no differences whatever from the holotype.

Culex penai can be readily distinguished from other *Culex* (*Melanoconion*) species by several unique features of the male genitalia. Its affinity can not be determined accurately. The predominantly broad decumbent scales in the central area of the vertex of the head and the absence of the scale patch on the pleuron are shared by the majority of species in the subgenus, but the relatively narrow wing scales on veins R_2 , R_3 and R_{4+5} are rather unusual, resembling that of *ocellatus* Theobald and a few other *Melanoconion* species. In the genitalia, the shape of the lateral plate and the development of apical sternal process and bifurcate apical tergal process resemble that of *andricus* Root, *idottus* Dyar, and *intrincatus* Brethes as figured by Rozeboom and Komp (1950) and Lane (1953), but the subapical lobe is rather similar to that of *ocellatus* and related species as described and figured by Duret (1969).

BIONOMICS. Except for the data given in the type-series, no further information is available.

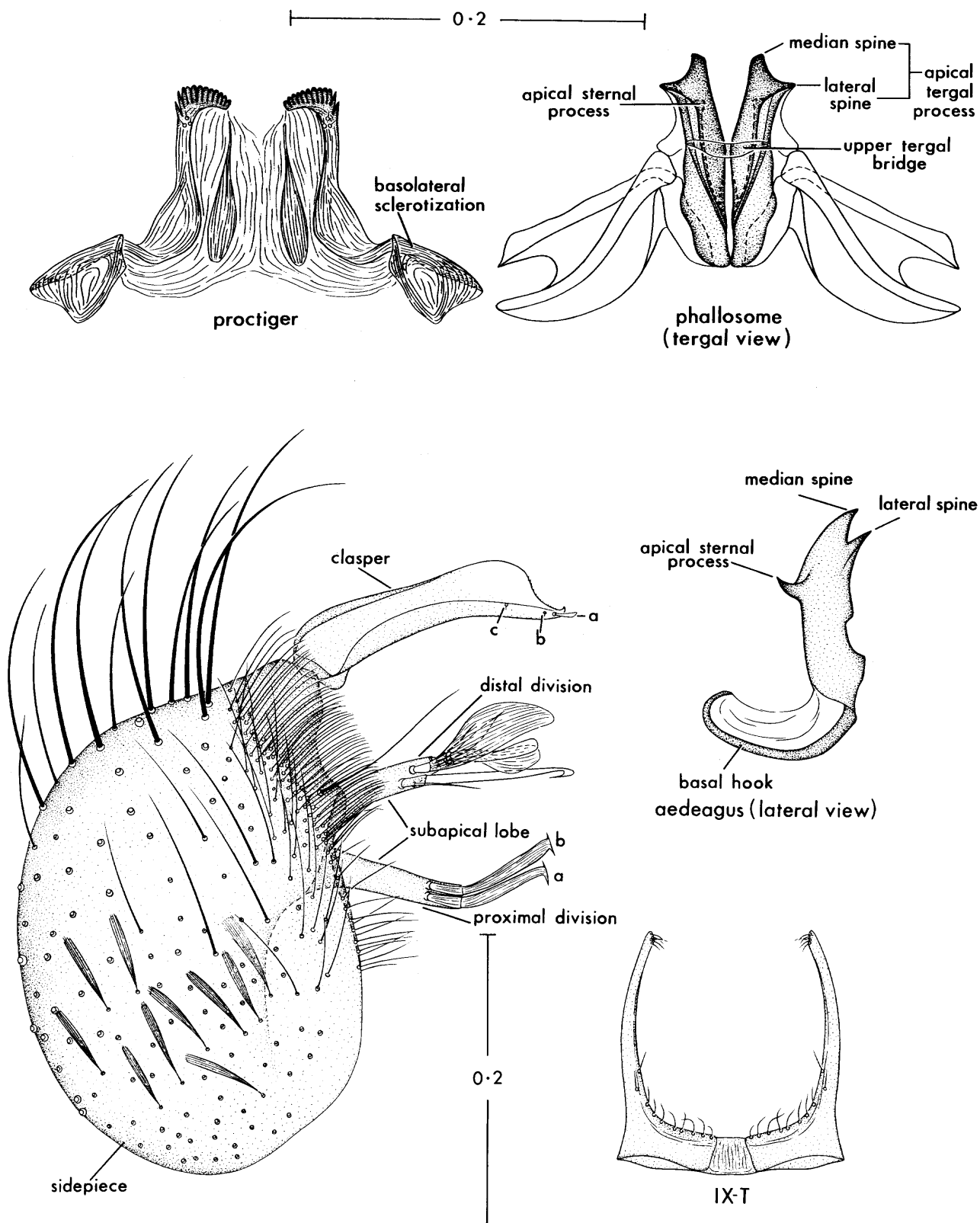
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Fig.1



Culex (Melanoconion) penai
Chapare, San Antonio, Bolivia

Pichai Malikul